

CLAIMS

1. A method for enhancing the expression of a transgene comprising:

5 (a) contacting a target cell with a DNA-damaging agent;

(b) removing said DNA-damaging agent from said target cell; and

10 (c) transferring said transgene into said target cell between about 1-3 days after
removing said DNA-damaging agent.

2. The method of claim 1, wherein said target cell is a dividing cell.

15 3. The method of claim 2, wherein said target cell is a tumor cell.

20 4. The method of claim 3, wherein said tumor cell is cisplatin sensitive.

5. The method of claim 3, wherein said tumor cell is cisplatin insensitive.

25 6. The method of claim 1, wherein said DNA-damaging agent is selected from the
group consisting of cisplatin, carboplatin; VP16, teniposide, daunorubicin, doxorubicin,
dactinomycin, mitomycin, plicamycin, bleomycin, procarbazine, nitrosourea,
cyclophosphamide, bisulfan, melphalan, chlorambucil, ifosfamide, mechlorethamine, and
ionizing radiation.

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7. The method of claim 1, wherein said transgene is transferred at about 2 days after removing said DNA-damaging agent.

5 8. The method of claim 1, wherein said transfer of said transgene is accomplished by a technique selected from the group consisting of liposome-mediated transfection, receptor-mediated internalization and viral infection.

10 9. The method of claim 1, wherein said transgene is a tumor suppressor.

15 10. The method of claim 9, wherein said tumor suppressor is p53.

11. The method of claim 10, wherein said p53 transgene is under the transcriptional control of a promoter.

20 12. The method of claim 11, wherein said promoter is the CMV IE promoter.

13. The method of claim 12, wherein said transgene is regulated by a polyadenylation signal.

25 14. The method of claim 13, wherein said polyadenylation signal is an SV40 polyadenylation signal.

30 15. The method of claim 14, wherein said p53 transgene is carried in an adenoviral vector.